4.3.4.2.2 *Site Infrastructure*

Implementation of the alternative for ceramic immobilization requires construction and operation of facilities to conduct the ceramic immobilization processes. Data for annual construction and operations are presented in Appendix C. Site infrastructure changes resulting from such construction are presented in Table 4.3.4.2.2–1 and changes from operations in Table 4.3.4.2.2–2 for six representative sites.

Hanford Site

[Text deleted.] Construction and operation of this facility would require construction of transportation links to the existing road and rail networks. DOE plans to site this facility close to existing roads and railroads to ensure that such construction and operations impacts to the site infrastructure would be negligible. Hanford would require additional natural gas supplies to operate the ceramic immobilization facility. Since natural gas availability is governed by usage and not by storage capacity onsite, the additional natural gas required for operations could be procured through normal contractual means.

Nevada Test Site

[Text deleted.] Construction and operation of this facility would require construction of transportation links to the existing road and rail networks. Additional oil would be required during the period of construction and during operations. Since oil availability is governed by usage and not by storage capacity onsite, the additional oil required could be procured through normal contractual means or the construction companies could provide for this additional oil from local suppliers. Since NTS uses fuel oil as its primary utility fuel, use of natural gas in lieu of fuel oil would require additional infrastructure during operations. The final facility design could be converted to use fuel oil. Construction and operation of this facility could require construction of transportation links to the existing road and rail networks, of less than 5 km (3 mi). Since NTS does not use natural gas, this facility would be designed to burn fuel oil if NTS were selected as the site.

Idaho National Engineering Laboratory

[Text deleted.] Construction and operation of this facility would require construction of transportation links to the existing road and rail networks. DOE plans to site this facility close to existing roads and railroads to ensure that such construction and operations impacts to the site infrastructure would be negligible. Since INEL does not use natural gas, this facility would be designed to burn fuel oil if INEL were selected as the ceramic immobilization facility site.

Pantex Plant

[Text deleted.] Construction and operation of this facility would require construction of transportation links to the existing road and rail networks. DOE plans to site this facility close to existing roads and railroads to ensure that such construction and operations impacts to the site infrastructure would be negligible. Additional oil would be required during the period of construction. Since oil availability is governed by usage and not by storage capacity onsite, the additional oil required for construction could be procured through normal contractual means or the construction companies could provide for this additional oil from local suppliers.

Oak Ridge Reservation

[Text deleted.] Additional oil would be required during the period of construction and during operations. Since oil availability is governed by usage and not by storage capacity onsite, the additional oil required could be procured through normal contractual means or the construction companies could provide for this additional oil from local suppliers. Construction and operation of this facility would require construction of transportation

Table 4.3.4.2.2–1. Additional Site Infrastructure Needed for the Construction of the Ceramic Immobilization Alternative (Annual)

	Electrical		Fuel		
	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
Facility Requirement	8,000	1.5	2,200,000	0	0
Hanford					
Site availability	1,678,700	281	14,775,000	21,039,531	91,708
Projected usage without facility	345,500	58	9,334,800	21,039,531	0
Projected usage with facility	353,500	59.5	11,534,800	21,039,531	0
Amount required in excess of site availability	0	0	0	0	0
NTS					
Site availability	176,844	45	5,716,000	0	0
Projected usage without facility	124,940	25	5,716,000	0	0
Projected usage with facility	132,940	26.5	7,916,000	0	0
Amount required in excess of site availability	0	0	2,200,000[a]	0	0
INEL					
Site availability	394,200	124	16,000,000	0	11,340
Projected usage without facility	232,500	42	5,820,000	0	11,340
Projected usage with facility	240,500	43.5	8,020,000	0	11,340
Amount required in excess of site availability	0	0	0	0	0
Pantex					
Site availability	201,480	23	1,775,720	289,000,000	0
Projected usage without facility	46,266	10	795,166	7,200,000	0
Projected usage with facility	54,266	11.5	2,995,166	7,200,000	0
Amount required in excess of site availability	0	0	1,219,446[a]	0	0
ORR					
Site availability	13,880,000	2,100	416,000	250,760,000	16,300
Projected usage without facility	726,000	110	379,000	95,000,000	16,300
Projected usage with facility	734,000	111.5	2,579,000	95,000,000	16,300
Amount required in excess of site availability	0	0	2,163,000[a]	0	0
SRS					
Site availability	1,672,000	330	28,390,500	0	244,000
Projected usage without facility	794,000	116	28,390,500	0	221,352
Projected usage with facility	802,000	118	30,590,500	0	221,352
Amount required in excess of site availability	0	0	2,200,000[a]	0	0

[a] Fuel oil requirements in excess of site availability could be procured through normal contractual means.

Source: HF 1995a:1; INEL 1995a:1; LLNL 1996d; NTS 1993a:4; OR LMES 1995e; PX 1995a:1; SRS 1995a:2.

Table 4.3.4.2.2–2. Additional Site Infrastructure Needed for the Operation of the Ceramic Immobilization Alternative (Annual)

	Transportation		Electrical		Fuel		
	Roads (km)	Railroads (km)	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
Facility Requirement	< 5	< 5	25,000	3	190,000	3,500,000	0
Hanford							
Site availability	420	204	1,678,700	281	14,775,000	21,039,531	91,708
Projected usage without facility	420	204	345,500	58	9,334,800	21,039,531	0
Projected usage with facility	425	209	370,500	61	9,524,800	24,539,531	0
Amount required in excess of site availability	< 5	<5	0	0	0	3,500,000[a]	0
NTS							
Site availability	1,100[b]	0	176,844	45	5,716,000	0	0
Projected usage without facility	645	0	124,940	25	5,716,000	0	0
Projected usage with facility	650	<5	149,940	28	5,906,000	3,500,000	0
Amount required in excess of site availability	0	<5	0	0	190,000[c]	3,500,000[a]	0
INEL							
Site availability	445	48	394,200	124	16,000,000	0	11,340
Projected usage without facility	445	48	232,500	42	5,820,000	0	11,340
Projected usage with facility	450	53	257,500	45	6,010,000	3,500,000	11,340
Amount required in excess of site availability	< 5	< 5	0	0	0	3,500,000[a]	0
Pantex							
Site availability	76	27	201,480	23	1,775,720	289,000,000	0
Projected usage without facility	76	27	46,266	10	795,166	7,200,000	0
Projected usage with facility	81	32	71,266	13	985,166	10,700,000	0
Amount required in excess of site availability	< 5	< 5	0	0	0	0	0
ORR							
Site availability	71	27	13,880,000	2,100	416,000	250,760,000	16,300
Projected usage without facility	71	27	726,000	110	379,000	95,000,000	16,300
Projected usage with facility	76	32	751,000	113	569,000	98,500,000	16,300
Amount required in excess of site availability	< 5	< 5	0	0	153,000[c]	0	0

Table 4.3.4.2.2–2. Additional Site Infrastructure Needed for the Operation of the Ceramic Immobilization Alternative (Annual)—Continued

	Transportation		Electrical		Fuel		
	Roads (km)	Railroads (km)	Energy (MWh/yr)	Peak Load (MWe)	Oil (l/yr)	Natural Gas (m^3/yr)	Coal (t/yr)
SRS							
Site availability	230	103	1,672,000	330	28,390,500	0	244,000
Projected usage without facility	230	103	794,000	116	28,390,500	0	221,352
Projected usage with facility	235	108	819,000	119	28,580,500	3,500,000	221,352
Amount required in excess of site availability	< 5	< 5	0	0	190,000[c]	3,500,000[a]	0

[a] Facility would be adapted to use fuel oil instead of natural gas.

[b] Includes paved and unpaved roads.

[c] Fuel oil requirements in excess of site availability could be procured through normal contractual means.

Source: HF 1995a:1; INEL 1995a:1; LLNL 1996d; NTS 1993a:4; OR LMES 1995e; PX 1995a:1; SRS 1995a:2.

links to the existing road and rail networks. DOE plans to site this facility close to existing roads and railroads to ensure that such construction and operations impacts to the site infrastructure would be negligible.

Savannah River Site

[Text deleted.] Construction and operation of this facility would require construction of transportation links to the existing road and rail networks. DOE plans to site this facility close to the existing roads and railroads to ensure that such construction and operations impacts to the site infrastructure would be negligible. Additional oil would be required during the period of construction and during operations. Since oil availability is governed by usage and not by storage capacity onsite, the additional oil required could be procured through normal contracts, or the construction companies could provide for this additional oil from local suppliers. Because SRS does not use natural gas, this facility would be designed to burn fuel oil if SRS were selected as the ceramic immobilization facility site.